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ABSTRACT

This study sought to identify and describe changes in curriculum programs and instructional systems occurring among a selected sample of small, private liberal arts colleges between 1969-70 and 1974-75. This study supports the prediction, based on a 1957 study by E.J. McGrath and C.H. Russell, that a pattern of course work combining a broad, liberal education with some initial vocational competence would become the pattern in American liberal arts colleges. Criteria for this study were drawn from the previous study and data were collected from the same institutions. Findings indicated that professionally/vocationally-oriented programs increased at an accelerated rate between 1900 and 1974 and that significant changes were found in curriculum and instructional systems. Alternative instructional systems in the expanded curriculum encouraged the learning of practical applications for the liberal arts disciplines. Social and cultural demands for curriculum changes and educational services created a need for interinstitutional cooperation between small, private liberal arts colleges. Shared facilities and faculties expanded capabilities and helped alleviate financial pressures. Information on program offerings of the surveyed schools is appended. (SW)

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Topical Paper No. 11

ARE LIBERAL ARTS COLLEGES PROFESSIONAL SCHOOLS? A RESTUDY

George L. Lepchenske
Fred F. Harcleroad

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June, 1978

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Topical Paper Series

ARE LIBERAL ARTS COLLEGES PROFESSIONAL SCHOOLS? A RESTUDY

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INTRODUCTION

"The four-year liberal arts college is the most imperishable unit in the American system of higher education."[1] Thus, wrote Earl McGrath in 1958 in his classic study of professional education in liberal arts colleges. In 1956 the Carnegie Corporation of New York had funded an extensive project for McGrath to study the liberal arts component in undergraduate professional schools. In the process he and his staff added a study of the related changes in aims and a study of professional programs of liberal arts colleges. They selected fifty representative liberal arts colleges (for the list see Appendix A) and compared their curricula in 1900 and in 1957. They found that . . . "the programs in even the most conservative liberal arts colleges have been revolutionized in the past several decades through the addition of programs with specific vocational objectives" (p. 12). The following chart illustrates the extent of the change which they found at that time. They ascribed these changes to two major social forces (1) the principle "that all youth should have the opportunity to develop their own peculiar abilities to the fullest . . . regardless of the social, economic or racial origin . . . ," and (2) "the increasing complexity of our economic system" and the resulting " . . . demands for new types of educational service" (pp. 13-14).

In the years since 1957 these social forces have become increasingly strong, and the press on institutions of all types has become even greater. As a consequence this present study was conducted to determine what liberal arts colleges have done in the two decades since 1957.

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[1] McGrath, Earl J. and Charles H. Russell, *Are Liberal Arts Colleges Becoming Professional Schools?*, Institute for Higher Education, Teachers College, Columbia University, New York, New York, 1958.

Professional, Preprofessional Curricula Offered In Liberal Arts Colleges in 1900 and 1957[a]

Preprofessional	Professional[b]
1900*	
Law	Civil Engineering
Medicine	Commerce
	Commercial Law & Banking
	Electricity
	Teaching

Preprofessional	Professional[c]	
1957		
Predental	Agriculture	Microbiology
Pre-engineering	Business	Military Science
Prelegal	Accounting	Ministry
Prelibrary Science	Business Administration	Music
Premedical	Merchandising	Occupational & Physical
Preministerial	Retailing	Therapy
Prenursing	Secretarial Work	Psychology
Preosteopathy	Chemistry	Public Relations
Prepharmacy	Christian Service	Radio
Prephysical Therapy	Civil Service Engineering	Recreation
Presocial Work	Commercial Art	Speech Therapy
	Dietetics	Teaching
	Engineering	Business Education
	Forestry	Christian Education
	Government & Foreign	Elementary Education
	Service	Music Education
	Homemaking	Physical Education
	Hospital Education	Secondary Education
	Journalism	Television
	Library Science	Theatre
	Medical Technology	

*Note: Since some catalogues were not available for these precise dates, the year of the catalogue used in a few instances departed slightly from the data above.

[a]McGrath and Russell (1958), p. 10.

[b]Provided some courses of study in these fields though not necessarily for credit.

[c]Some colleges outlined specific curricula, others merely stated that appropriate instruction was available.

ARE LIBERAL ARTS COLLEGES PROFESSIONAL SCHOOLS? A RESTUDY

Colleges in the 1960's and 1970's, especially private liberal arts institutions, are increasingly being forced to choose among alternative emphases and priorities. Expanding programs in professional-vocational areas can mean a reduction in the traditional liberal arts programs. Likewise, expansion of low-cost programs, e.g., humanities, fine arts and languages, can mean a comparable reduction or elimination of the more costly hard-science programs (Bowen and Douglas, 1971). Other alternatives are available and colleges may also retain classical commitments while expanding offerings in other areas.

College statements of institutional goals are verbalizations which can be useful in determining and evaluating policy and practice in higher education. These statements provide a foundation for a consensus even if a college's stated goals are not totally representative of its efforts. F.C. Ward (Niblett, 1970) noted that colleges must be able to articulate their unique goals in ways meaningful to their constituencies and supporters if they are to expect the continuation of support necessary for their survival.

The common concern is that these institutions have not realized the potential of their "unique" values and goals. Catalogue listings often are vague in an attempt to appeal to a broad pool of prospective clients.

As Riesman stated in 1969 and as Cheit observed in 1970, financial resources seem to be retracting, educational costs are drastically increasing, and new demands are being made by society. External constituencies are pressing for full accounting of the expenditures of funds. This has resulted in demands for accountability for both public and private institutions. The Carnegie Commission capsulized some of these demands in *Higher Education. Who Pays? Who Benefits? Who Should Pay?*

Institutions are attempting to satisfy these pressures in a number of ways. Some have done it by reorganizing the academic disciplinary structure. They attempt to provide full development of the individual through interdisciplinary and combined majors which are an attempt to retain the traditional goals of a liberal education while reducing the institutional costs. Expensive scientific programs are being expanded through cooperative or consortia arrangements (Patterson, F., 1974). Often these solutions are also being used to respond to vocationally oriented social demands while retaining the basic cultural heritage *via* development of intellectual values and styles, aesthetic sensitivity, and attitudes of social and moral responsibility. In some institutions outright vocationalism prevails.

To further expand offerings in support of both traditional educational goals and current requirements of productivity, many institutions are turning to public service programs for students both as vocational preparation and as a vehicle for intellectual awareness of cultural heritage. Internships, social action projects, and cultural studies are used in a vast array of structural techniques. As a result, traditional statements of philosophy, goals listings, and educational objectives often are no longer the indicators of educational processes in liberal arts colleges. Pragmatic concerns of survival dictate that programs meeting the needs of the expanded middle-class student body be developed. This conflict seems to be partially resolved in some institutions, but others still are attempting to retain the facade of goals statements steeped in the classical European tradition of liberal study. Realistic appraisal indicates that these statements may be only frames for a curriculum rapidly becoming more practical. The glove is velvet, but the fist may be iron.

In order to determine the directions taken by liberal arts colleges, this study attempts to identify and describe changes in curriculum programs and instructional systems occurring among a selected sample of small, private liberal arts colleges between 1969-70 and 1974-75. In the inquiry, answers were sought to the following five questions relating specifically to liberal arts colleges:

1. Have professionally/vocationally-oriented programs increased? If so, how do they compare with McGrath's findings in 1956-57?

2. Are there significant changes in curriculum and instructional systems?

3. Do significant changes in curriculum programs indentify instructional system changes?

4. Are there relationships between identified curriculum changes and identified instructional system changes?

5. Are there relationships between professionally/vocationally-oriented programs and changes in instructional systems?

In order to be as compatible as possible, this current investigation was based on the findings of McGrath and Russell's 1957 study of professional and preprofessional instructional offerings in fifty institutions, and the data for this study were drawn from these same institutions although three colleges were excluded because of name confusion and closings. Using the criteria of McGrath and Russell (1958), professional and preprofessional programs were examined for 1969-70 and 1974-75. Factual occurrences of curriculum and instructional system changes were determined as shown in the catalogues of the selected sample of forty-seven small, private liberal arts colleges (see Appendix A) for the years 1969-70 and 1974-75. A complete listing of major programs of study offered by

these colleges was developed for the target years. The numbers of graduates in these programs were analyzed for 1969-70 and 1971-72 in relation to both the liberal arts and professional/vocational curricula. The structures of major programs of study were examined, described, and analyzed. Quantitative and qualitative comparisons and contrasts of the changes found to be significant between the target years were made. Specific elements of the institutions' curriculum and instructional systems were compared to findings of McGrath's earlier study of the years 1900 and 1957 for historic continuity.

Complete data on goal statements were obtained from each of the colleges of the 1969-71 time span, except for one institution reporting information from 1967-68. In 1973-75, complete data were available for forty-six colleges, one reported partial information, and one (Parsons) closed its doors during the dates used for the study. Program information also was complete in the 1969-71 time span except for the institution (Wabash) which was represented by information from the 1967-68 catalogue. The data for the 1973-75 program evaluation included forty-six complete catalogues and one partial response (Marietta) with no response from Parsons College (see Appendix A).

For the purpose of this inquiry, each institution was located on a three-level scale determined by catalogue statements of (1) their stated purposes, (2) the processes used for reaching these purposes, and (3) the procedures by which these processes were incorporated into the curriculum. Each level was assigned numerical rankings from 1 (indicating strong vocational interest) to 10 (indicating strong classical liberal arts orientation). Professional programs were assigned a value of five on the scale. These observations were taken from catalogues in the years 1969-71 and 1973-75. In some instances, catalogues were not available for the years studied. However, all institutions were represented by catalogues as close to the 1970-71 and 1974-75 academic years as possible.

The numerical value of catalogue goal statements in the sample were ordered on a scale from 1 to 10. The higher numbers indicated a classical-traditional concern for liberal education. The smaller numbers reflected a concern for vocational interests and employability of students. These rankings were then evaluated and analyzed. The information indicated a shift of goal emphasis had taken place, with goals restated in more professional-vocational terms in the later time span.

Analysis of goal statements and programs indicated a generally parallel movement in the direction of vocational-professional offerings. There was a strong tendency for goal statements to reflect career or professional objectives and for program changes to be in the direction of vocational-professional offerings.

The 1969-71 catalogues reflected and emphasized the importance of a basic program of liberal arts' core curriculum requirements or general education. For

example, statements from the colleges varied from Colby's "committed to the belief that the best preparation for life in our world is a broad acquaintance with human knowledge rather than narrowly concentrated training in limited areas," to a statement the "student is encouraged to build an academic program that will be consistent with sound career planning" (Bates), and to Colorado College's statement that "the college recognized the student's need for professional or preprofessional training."

The later listings of 1973-75 illustrate an even wider range of purpose statements, retaining the element of a basic pool of knowledge, but with differing processes and procedures of application. Colby College's goal statement remained constant, echoing the earlier purposes and processes. The Bates' statement changed to "develop, encourage, and direct (the student's) process of perception. Today's specialization can best be carried out in the frame of reference of the humanities." The vocational-professional concern was indicated by the "recognition of the student's need for professional or preprofessional training" (Colorado).

Institutional programs were viewed in areas. First, the preprofessional areas of the catalogues were divided into three categories (see Appendix D):

Level 1: The general section of the catalogue indicated, usually in a section titled "Preprofessional Programs," or "Career Planning," that preprofessional programs are available upon consultation with faculty, a cooperation program is offered, or a major is available.

Level 2: The general section of the catalogue stated that preprofessional or career centered requirements can be met by appropriate liberal arts courses. Few, if any, specifics are mentioned. Those that do reiterate the importance of a broad liberal arts background as the best professional training.

Level 3. Departmental overviews or introductions to the catalogue course listings stated that preprofessional requirements can be met.

In 1969-71, an average of five (ranging from two to eight) of the thirteen preprofessional programs are mentioned. Of the thirteen programs, the classical "gentlemen's professions," law, theology, and medicine, are most prominently mentioned, closely followed by dentistry and cooperative engineering programs. Preprofessional efforts in social work, library science, nursing and medical technology have a fair amount of attention, while the paramedical professions (optometry, osteopathy, and pharmacy) are almost entirely ignored.

The results from tabulating the 1973-75 preprofessional offerings indicate an expanded program in the preprofessional curriculum (see Appendix D). Medical and nursing programs were expanded or upgraded with new offerings which

increased the number of programs 13 percent (from fifty-nine to sixty-eight). Other health-related preprofessional programs, medical technology, pharmacy, osteopathy and optometry made significant gains. Total preprofessional programs increased from 243 in 1969-71 to 267 in 1973-75, an increase of approximately 9 percent (see Appendix C).

Kalamazoo College, as an example, added several preprofessional programs. According to the 1973-74 catalogue, medicine, osteopathic medicine, and dentistry programs are available, listing specific courses. Optometry, pharmacy, pediatric medicine, nursing, and chiropractic programs of study were available from liberal arts courses. These options were not availabie in the 1970-71 listings.

Several other institutions rechanneled resources or upgraded specific preprofessional programs, while dropping other offerings. Kenyon College eliminated the nursing and dental study areas, while upgrading programs in prelegal and premedical pedagogic endeavors. Kenyon also created a major area of study for engineering. Twenty-eight programs were upgraded, while only a total of six were deemphasized.

The trend toward wider preprofessional offerings is clearly illustrated by the twenty-five programs dropped while forty-five were added. Status changes most clearly emphasize this movement (see Appendix F).

In the professional training fields, these institutions have continued to modify their positions with reference to liberal education. Some, such as Muskingum, Baldwin-Wallace, Iowa Wesleyan, Luther, and Thiel, have ten or more professional training programs. In this sense, "professional" is defined as a principal vocation or employment.

The impact of these professional course offerings are easily recognized when numerical values are assigned and the results correlated. A Spearman rank correlation (Rho), adjusted for ties, resulted in a significant value at the Alpha .05 level indicating that the 1969-71 program has only limited relationship to the 1973-75 program offerings. The stated purposes and/or goals of the sample colleges have changed less rapidly in the direction of professional programs than the curricular program offerings themselves.

Statistically, the changes from the 1969-70 emphases are clearly seen when the professional training programs are examined in these colleges. The number of program increases is significant in the areas of theatre, Christian service, journalism, ministry, and nursing. Decreases are recorded for business administration, merchandising, dietetics, and military science.

One development in the sample colleges is similar to the general trend in higher education toward cooperative programs. The medical technology, nursing, forestry, and engineering areas were primarily the product of some cooperative arrangement. The total professional programs for the study sample declined in 1969-71 from 442 to 329 in 1973-75, even when the cooperative areas were included. However, cooperative programs increased over 50 percent, while total programs decreased by about 26 percent.

When complete listings of all course offerings were compiled, definite trends became obvious (see Appendix C). The number of major areas offered in 1969-71 numbered eighty-eight. This had increased to 125 by 1973-75, and much of the increase was vocational in nature. The increase in programs resulted primarily from the creation of new major fields of study. Computer science, geology, applied math, and administrative science were listed as major fields of study at some colleges in 1969-71. In later years additional institutions listed these as major programs. Those who did not offered similar programs as areas of study for minor emphasis.

Another trend in the sample became evident when curricula were examined. Combined disciplinary majors and interdisciplinary majors were offered in thirty-two programs identified in the 1969-71 catalogues. The 1973-75 listings increased this number to seventy-seven. This 143 percent increase indicated a highly significant change in procedural operations in these institutions. Offerings in minor areas of study increased in relative numbers. Sixty-eight minor areas were listed in the 1969-71 observations; these expanded to eighty-seven in the later tabulation, a 22 percent growth.

The majority of combined majors were offered as a marriage between a scientific field of study and a liberal arts field of study. Some examples, in the 1969-71 catalogues, follow. Centre College listed majors in biochemistry, chem-physics and psychobiology. Later, these were retained and expanded to offer, in addition, an interdisciplinary major in environmental science. Combined major areas of study were listed for six liberal arts areas and five hard science areas in the 1970-71 catalogue of Colby College. Later, in 1974-75, these were retained, adding psychology-math, administration science-math, and economics-math combinations. Luther College (1974-75) established a combined major employing math, with empnasis in another practical area such as actuarial science, computer science, science, business administration, secondary teaching, or graduate study in math. This technique effectively broadened the mathematics area without creating other departmental majors. The 1970-72 catalogue listed political science as a major; later this program was expanded and renamed politics, with a combined major possible in politics-sociology. Marietta College developed several combined majors. The 1970-71 business administration major was restructured to allow joint majors in any combination of management, managerial economics, and accounting. The later catalogue

joined management with biology, chemistry, petroleum engineering, psychology, sociology, and math. These combined majors were interpreted to indicate a desire to produce graduates more competitive in a restricted job market. These combined majors were evaluated as such when programs were placed on institutional scales.

The creation of interdisciplinary majors or study areas was another indication of the attempt made by private liberal arts colleges to meet the changing demands of student populations with minimum cost and restructuring. Interdisciplinary majors and areas of study (minors) were interpreted to include any described program of study requiring course work from three or more departments, divisions, or other areas identified as structural elements of the college. The total sample included fifty such opportunities in the 1969-71 observations; by 1973-75 these had increased to ninety-one, a 45 percent increase and these are only the ones described in the catalogues and do not include variations of self-directed study or repeated offerings. Wooster College offered four identified cultural area studies programs as majors in 1969-70. By 1973-74, these had been expanded to eight, in addition to new offerings of general literature, social welfare (a pre-social work major) and a combined major in chemistry-physics. Urban studies (an integration of economics, political science, religion, sociology, and history) was retained. Centre College, on the other hand, developed an expanded base for lower division students in 1970-71. This evolved into an integrated studies program as a minor area of study when coupled with junior level humanities courses and senior seminars. Grinnell developed its interdisciplinary programs in another manner. With five major interdisciplinary programs, seven minor areas were available in addition to an independent study program and an off-campus study program. The last two options were generally open to any areas of study upon faculty approval. The majority of interdisciplinary course offerings were concentrated in the humanities and liberal arts areas. Environmental studies and urban studies were the only programs which included the hard sciences among these possible study areas.

Emphasis on vocationally-oriented programs increased dramatically. (Vocational is defined as training in a skill or trade to be pursued as a career). Major vocational offerings (such as computer science, applied science, theatre, or health science) increased from twenty-one to fifty-seven. Supportive minor areas increased from twenty-eight to thirty-five. Many institutions strengthened earlier study areas to make them strong majors. Wooster College restructured the speech major into programs offering majors in theatre rhetoric and public address, radio/TV/film, and speech and hearing science. Centre College developed a completely new program in nursing education with a Bachelor of Science in Nursing degree. A major program in medical technology was developed to accompany the nursing program. A minor area of sociology and anthropology was strengthened to provide a major study program.

A major direction for changes in program offerings is indicated by the relatively large number of cooperative educational arrangements in engineering, health, medical technology, and forestry. The 1969-71 survey revealed eleven cooperative programs in medical technology. By 1973-75, this number had increased to seventeen, a 65 percent increase.

Engineering programs were predominantly offered as joint ventures with larger institutions, usually a private university. Colby College offers a 3-2 program in conjunction with the University of Rochester, resulting in the granting of a Bachelor of Arts degree from Colby and a Bachelor of Science in Engineering degree from Rochester. Advising of these students is done by a committee on professional preparation in engineering. This program was operational during the course of the study. Cornell College (Iowa), on the other hand, offered a 4-2 program in 1969-70, indicating "after completion of a Bachelor of Arts degree at Cornell, a student may be able to complete his engineering degree in two additional years . . . at such schools as Columbia, Stanford, and the Massachusetts Institute of Technology." In the 1974-75 catalogue, the Cornell program was indicated to be a 3-2 cooperative plan in conjunction with Washington University, St. Louis, Missouri. Upon completion a student "may receive a baccalaureate degree (in arts, philosophy, or special studies–according to his choice of curriculum) from Cornell College and the Bachelor of Science in Engineering from Washington University." Various specialized areas of engineering are then listed as possible areas of emphasis. Six other institutions indicated new cooperative programs in the engineering field not offered in 1969-71.

Cooperative arrangements seemed prevalent in nursing and the allied health fields. Nursing majors increased from the single offering of Allegheny College in 1969-70 (changed to broad preparation in basic science in 1973-74) to definite majors in 1973-75 at Baldwin-Wallace, Iowa Wesleyan, Monmouth, and Simpson. Other institutions upgraded existing prenursing programs into directed majors (Drury, Muskingum. Otterbein, and Thiel). Five other liberal arts colleges added nursing program *via* cooperative arrangements with a nursing school, medical school, or teaching hospital. Muskingum College's 1970-71 catalogue neglected this area completely, but the 1975-76 listing indicates a 3-2 program operating in consort with the Frances Payne Boston School of Nursing at Western Reserve University, resulting in degrees awarded from both institutions.

The pattern of increased cooperative programs is duplicated in the allied health fields of medical technology, physical therapy, and health sciences. Baldwin-Wallace College (Ohio) lists a program in respiration therapy in conjunction with Cuyahoga Community College awarding a Bachelor of Science degree with a major in respiration therapy. "Students complete a two-year technical program in respiration therapy at Cuyahoga Community College and continue at Baldwin-Wallace with requirements leading to the bachelor of

science degree. . . ." The Baldwin-Wallace medical technology program is operated through an affiliation program whereby "students may receive their year's practical training at one of several area hospitals. . . ." An area of concentration is suggested in biology as a supporting area of study. The 1969-70 listing referred only to a suggested course of study "to apply for admission to a Master's degree program."

The Ripon College (Wisconsin) medical technology program was not listed in the 1970-71 catalogue. The 1973-74 profile indicates that upon completion of "three and one-half years of study at Ripon and a year at St. Agnes Hospital . . . or other recognized hospitals, a student can become a licensed medical technologist." Cooperative programs with Rush University are also listed as 2-2 options in nursing and allied health services.

Forestry programs have traditionally been the result of a 3-2 course of study. All twelve observed forestry programs were with Duke University. This represented five new arrangements, an increase from seven in the 1969-71 base years.

These cooperative ventures and other innovative curricular programs have resulted not only from financial pressures, but also from social influences. Increased costs for expanded programs demanded by an increasingly vocationally-oriented student body have forced many institutions to ignore the traditional liberal arts philosophy in program development. Rapidly inflating costs have forced specialized professional-vocational programs to become mutual ventures in order to protect educational offerings. Social demands for expanded educational services and changes in programs have generated a need to share expertise and resources to satisfy these demands.

Program offerings in military science leading to a military commission were strong in the 1969-71 survey (17), even among the colleges which offered very few preprofessional or professional-vocational programs. Probably due to the international situation and student attitudes, there was a reduction to ten in the 1973-75 years. Though the military profession is considered to be "gentlemanly," student antiwar attitudes evidently had tarnished the attractiveness of a military career. One unique program in military science cooperation is in operation between Drury College (Missouri) and Southwest Missouri State University. Drury students "may cross-enroll in the R.O.T.C. program at Southwest Missouri State University. These credits, however, *cannot* count toward a degree at Drury College." This is one of the few instances in which cooperation between public and private institutions is evident.

Education programs leading to teaching certification for secondary teachers are available in forty-four of the institutions (1973-75); in thirty institutions for elementary teachers (1973-75); and twenty-three colleges offer programs for

physical education teachers. Despite the reduced market demand for teachers, these numbers reflected no major reduction in program opportunities. The 1969-71 figures showed forty-six programs for secondary teachers, twenty-eight for elementary, and thirty for physical education. The majority of these programs are not major areas of study, but rather minor areas of emphasis. In 1969-71, education emphasis as a minor was listed by forty-one institutions; in the later years, the same number listed a minor emphasis, with three colleges increasing emphasis to major status while one reduction was noted to minor status. Only two institutions dropped the teacher training programs. A typical program is indicated by the Muskingum College's education department as being a block of courses in a major conflict area, eighteen hours in professional education, and student teaching. "Certification requirements vary from state to state, requiring an awareness of special course requirements for specific state certification." In the colleges reviewed, only five departments or divisions of education offered majors in 1969-71; eight offered majors in 1973-75. The colleges offering majors were those having a variety of other major professional-vocational offerings, e.g., Centre, Colorado, Kalamazoo, Knox, Luther, William Jewell, and Wooster. The more traditionally oriented institutions, such as Allegheny College (Pennsylvania), dropped the education program, or dropped areas of specialization within the program (Wooster College, Ohio).

A number of examples show the variety in some of the colleges while emphasizing the trends in the majority of the institutions.

Haverford College illustrates the highly classical liberal-arts program with its continuing dedication "to academic excellence created in an environment of concern for the growth of individuals within the college community." Another passage indicates this is to be done by "strong emphasis upon a vigorous academic program." The 1974-75 statement reads "Haverford College seeks to prepare men for lives of service, responsibility, creativity, and joy, both during and after college." These goals will be achieved through the following:

1. A commitment to open inquiry by both its students and faculty, combined with vigorous appraisal and use of the results of that inquiry.

2. An emphasis on a broad education in the natural and social sciences, the humanities, and the arts, combined with strong competence in at least one field of the student's choosing.

3. An educational program that aims more at preparing men to think and act clearly, boldly, and humanely in whatever life work they choose than at training for specific professional careers.

The efforts at Haverford to create a classical goals statement are abundantly clear, even to the restrictions placed on specific professional career training stated in the third objective; yet, even this traditional institution, as it spurns career training, offers a major in engineering and applied science. An arts and service program is tucked away in a minor study area.

Ripon College's goals statement indicate the changes institutions have made in support of liberal education. In the 1970-71 catalogue, the goals were stated as follow:

> *Ripon College exists for the advancement of human knowledge and the education of a new generation of productive citizens. It is committed to the philosophy that the liberal arts offer the richest foundation for intellectual, cultural, social, and spiritual growth. . . . Liberal education focuses upon the kind of learning that frees man from provincial and parochial attitudes, from bias on limitation of origin, from vocational narrowness, and from cultural particularity. . . .*

The emphasis changed in the 1973-74 representation to

> *. . . the liberal arts develop in the student a sensitive understanding of his cultural heritage, a critical ability to evaluate the product of man's mind and a disciplined capacity to participate in the creation of new dimensions and directions of human endeavor. With or without complementary technical study, the liberal arts will prepare the student for a career or for graduate study in any one of a wide choice of professions.*

The change in reference to careers, technical study, and creation of new dimensions are obvious. The concern for "career" or "profession" is a major change from the earlier emphasis on liberal arts as the "foundation for intellectual, cultural, social, and spiritual growth."

Nevertheless, while the later goals statement refers to career concern and creative effort, the program of instruction retains a relatively traditional liberal arts flavor. A strong emphasis on languages is evident in the six language areas available (German, French, Spanish, Russian, Greek, and Latin). Expanded major offerings are generally in an interdisciplinary studies area, combining two of the traditional major study areas such as history-political science, theology-art, or art-psychology. The major technical offering is a minor area of emphasis in computer science. Ripon College, then, represents an institution which has overhauled the goals statement of the institution but has made only minor movements toward the program changes indicated by this statement.

Lawrence University (Wisconsin) is unique in the sense that "university" has been incorporated in the name of the institution, using the justification that the

term was needed "to reflect the institution's emphasis on the classic liberal arts. . . ." The name change occurred in 1964, when Lawrence College merged with Milwaukee-Downer for Women. The term "university" was felt to be "broad enough to encompass the two colleges and The Conservatory of Music."

The goals statement of Lawrence University in the 1969-70 catalogue indicates a strongly classical concern for a "varied, flexible, demanding program of liberal arts and sciences, studies designed to free them (the students) from ignorance, insensitivity, and uncritical thinking." Later in the statement, reference is made to the program which "lays a foundation for further professional training, to be sure; more important, it helps the student who throws himself fully into the program to prepare himself for courageous and independent thought leading to responsible action in a culture that needs courage and independence and responsibility." These concerns echo the *liberali liberaliter instituenoli* ("gentlemen should be educated like gentlemen") program of Hellenic times described by Brubacher and Rudy.

The Lawrence statement considers the training in liberal arts as a mental discipline which prepares students "to gain the capacity and self-confidence to move flexibly from one area of specialized knowledge to another." Career training is recognized as being only a substantive segment of liberal education, recognized in teacher education programs and professional courses, with "intrinsic worth at the time of inquiry." The academic program reflects these values. Other than the traditional disciplines, majors are offered in music education (a recognized profession in conjunction with the Conservatory of Music), art, geology, government, and theatre/drama. Sociology was recognized as a major offering in 1972-73 in tandem with an expanded integrated studies program of interdisciplinary course offerings. An interdisciplinary major is offered, but only inclusive of the hard science areas of physics, chemistry, biology, and geology. The liberal arts majors remained undefiled with the exception of minor areas of study in the integrated courses. However, a June 30, 1975, news release from Appleton, Wisconsin, describes in some detail the bartending course offered by Lawrence to some fifty of its students.

Kalamazoo College (Michigan) has redirected its goals statement toward the professional-vocational career concerns indicated in its "Kalamazoo Plan." The 1973-74 catalogue indicates the goals of the college to be as follow:

> *. . . provides the cultural and intellectual foundations necessary for individuals to cope with change and understand it. The flexibility of the Kalamazoo Plan lets you develop a program suited to your individual needs and can provide the background for graduate and professional study or for direct entry into a variety of vocations.*

The 1970-71 statement read exactly the same, *except* for the phrase "or for

direct entry into a variety of vocations," indicating a drastic addition to the liberal studies concept.

The program offerings indicate a redirection by the inclusion of new preprofessional programs, vocational majors (health science and business administration), and computer techniques/science. The college's unique plan makes provision for two optional "career-service" alternatives for which credit will be granted.

The career-service experience lists objectives as follow:

1. To provide experience in a job related to your academic program and future career interests.

2. To present an opportunity in which you may develop independence, self-reliance, and a sense of responsibility.

3. To help you learn to contribute to the objectives of an employer.

From these, the student is expected to "pursue significant social service, or explore career openings. . . . " Obviously, this example of a career internship deviates drastically from the theoretical and intellectual bent of the classical liberal studies but does illustrate an extreme example of a private liberal arts vocational college program.

Roanoke College (Virginia) espouses a typically traditional statement of liberal education goals. The 1974-75 statement of purpose remains essentially unchanged from the earlier presentation:

> *. . . A liberal arts college dedicated to training men and women in high standards of scholarship in the arts and sciences and to developing the individual's intellectual ability in his pursuit of truth. The College seeks to give the student a broad competency in a field of specialization and an understanding of his own and other cultures . . . it is interested in having the individual become more proficient in the disciplines necessary to his social, moral, and economic well-being.*

As preparation to pursue truth, the college trains a student in a field of specialization. Reflected in the program offerings are bachelor of science majors in medical technology, nursing, biology, math, chemistry and physics. The Bachelor of Arts degree is available with majors in the traditional liberal arts areas of fine arts, economics, English, chemistry, French, German, history, philosophy, psychology, political science (a broad area major), sociology, and Spanish. Business administration is offered in a separate degree. An interdisciplinary major in urban studies was developed in the 1973-74 catalogue.

The urban study area includes an internship. Minor areas of study encompass career oriented courses of study in aeronautics and computer science. Curriculum expansion is evident in such options as class audit, a college-without-walls program, and a "learning for fun" program. Air Force military science study is offered in cooperation with Washington and Lee University. Drury College also lists similar cooperative programs in military science.

In essence, the Roanoke College program provides students with a multitude of career and vocational opportunities. These offerings would be surprising if one took the stated goals of the institution seriously. This college is an example of the school with classical goals but a very practical curriculum.

Conclusions:

In 1958, McGrath predicted that a degree pattern of course work combining a broad, liberal education with some initial vocational competence would become the pattern in American liberal arts colleges (p. 13). The findings of this present study strongly support that prediction. A comparison of preprofessional majors shows an increase to eighty-three in 1969-71 and to 125 in 1973-75. Cooperative programs, basically professional-vocational, increased from twenty-one in 1969-71 to forty-four in 1973-75. Professional degree programs were at a peak of 442 in 1969-71 and decreased to 329 in 1973-75. However, stated vocational majors and minors increased from an admitted sixty-eight in 1969-71 to ninety-two in 1973-75. Meanwhile combined and interdisciplinary majors and minors increased from sixty-one in 1969-71 to 128 in 1973-75. Compared with McGrath's findings in 1957, the trend toward a professional/vocational emphasis has accelerated in this fairly representative active sample of American liberal arts colleges. Clearly, the findings of the study support the following conclusions:

1. Professionally/vocationally-oriented programs have increased at an accelerated rate between 1900 and 1974. Changing conditions and social needs have been reflected in the increased numbers of professional/vocational programs available in the sample colleges. A common liberal arts curriculum provided the base for a wide range of alternative programs which included increased opportunities for students to choose professional or vocational emphasis. Preprofessional programs tended to be more clearly defined. Previous emphasis on liberal education as a general preparation tended to be less pronounced. Liberal education in the sample colleges was found to be reorganized and restructured to provide increased alternatives in professional/vocational programs.

2. Significant changes were found in curriculum and instructional systems as a result of the increased emphasis on professional and vocational types of instruction. Major programs of study were found to be more flexible in

organization with increased use made of interdisciplinary and student-designed majors. Changes in instructional systems were found which supported the flexible programs through various forms of interinstitutional cooperation. Instructional systems were found which provided practical educational experiences or which expanded academic experiences.

Interinstitutional cooperative arrangements served as a method of providing new educational programs and as a method of retaining old programs for the least expense. Cooperative efforts were found to provide expanded capabilities while requiring a minimum of resources in faculty, facilities, and money. Cooperation was a management method which provided opportunities for students to participate in high cost programs through the use of shared resources. The sample colleges examined during the period of this study often used interinstitutional cooperative arrangements which expanded programs through existing arrangements rather than forming new arrangements for new programs.

3. Interinstitutional cooperative arrangements have been shown to result from the curriculum changes in the sample liberal arts colleges. Changes resulted not only from financial pressures, but also from social and governmental influences. High costs forced many institutions to ignore autonomy in favor of shared facilities and faculties. Rapidly inflating costs forced specialized and technical programs to become mutual ventures. Social and cultural demands for educational services and responsive programs created a need to share expertise and resources among the small, private liberal arts colleges to satisfy those demands. Finally, cooperative administrative activities indicate a trend for the sample colleges to share management and administrative functions.

4. Expanded educational services have been offered through increased alternatives available to students, community, and society. Increased alternatives were provided by a reorganizing of knowledge, expanding general education, and providing meaningful applications to the liberal arts. Alternative degrees and major programs of study which included off-campus experiences were vehicles for expansion. Alternative instructional systems providing for off-campus experiences were made available through the use of interinstitutional cooperative arrangements. Therefore, a critical effect of curriculum changes which meet social and cultural demands was the formation of interinstitutional cooperatives to meet these needs in an effective and efficient manner.

5. Changes in the instructional systems of the forty-seven sample liberal arts colleges were the result of the pressures for relevant education. While

retaining a core of the liberal-arts disciplines, the modern liberal-arts curriculum expanded opportunities for professional and vocational preparation often through alternative instructional systems. Such alternative programs encouraged the learning of practical applications for the liberal-arts disciplines. The demand for meaningful liberal education created pressures for expanded program offerings which would provide useful skills and knowledge, as well as knowledge for the sake of knowledge.

From these data and conclusions it is clear that American liberal arts colleges are adapting and surviving. To do this they are following Whitehead's "urging" and are "connecting" subjects in a way which can bring vitality back into the liberal arts curriculum.*

*Whitehead, Alfred North, *The Aims of Education.* The Macmillan Co., New York, 1929, p. 10.

BIBLIOGRAPHY

Bowen, Howard R. and Douglass, Gordon K., *Efficiency in Liberal Education.* (Carnegie Commission on Higher Education for the Macalester Foundation) New York: McGraw-Hill, 1971.

Brubacher, John S. and Rudy, Willis, *Higher Education in Transition.* New York: Harper and Row, 1968.

Carnegie Commission on Higher Education, *Higher Education: Who Pays? Who Benefits? Who Should Pay?* New York: McGraw-Hill (for the Commission), 1973.

Cheit, Earl F., *The New Depression in Higher Education.* (Carnegie Commission on Higher Education) New York: McGraw-Hill, 1971.

Martin, Warren B., *Conformity: Standards and Change in Higher Education.* San Francisco: Jossey-Bass, 1969.

Niblett, W.R., ed., *Higher Education: Demand and Response.* San Francisco: Jossey-Bass, 1970.

Patterson, Franklin, *Colleges in Consort.* San Francisco: Jossey-Bass, 1974.

Riesman, David, "The Collision Course of Higher Education," *The Journal of College Student Personnel.* 10, November, 1969.

Whitehead, A.N., *The Aims of Education.* Macmillan Co., New York, 1929.

APPENDIX A

INSTITUTIONS SELECTED FOR STUDY

The following institutional catalogues were examined for the years 1969-70 and 1974-75 and represent the forty-seven institutions identifiable in McGrath and Russell's 1957 study, *Are Liberal Arts Colleges Becoming Professional Schools?* published in New York by Bureau of Publications, Institute of Higher Education, Columbia University, 1958:

Allegheny College
Meadville, Pennsylvania

Baldwin-Wallace College
Berea, Ohio

Bates College
Lewiston, Maine

Beloit College
Beloit, Wisconsin

Carleton College
Northfield, Minnesota

Centre College of Kentucky
Danville, Kentucky

Colby College
Waterville, Maine

Cornell College
Mount Vernon, Iowa

Colorado College
Colorado Springs, Colorado

Davidson College
Davidson, North Carolina

Hobart and William Smith Colleges
Geneva, New York

Dickinson College
Carlisle, Pennsylvania

Drury College
Springfield, Missouri

Earlham College
Richmond, Indiana

Franklin and Marshall College
Lancaster, Pennsylvania

Gettysburg College
Gettysburg, Pennsylvania

Grinnell College
Grinnell, Iowa

Hamilton College
Clinton, New York

Haverford College
Haverford, Pennsylvania

Heidelberg College
Tiffin, Ohio

Hiram College
Hiram, Ohio

Muskingum College
New Concord, Ohio

Holy Cross, College of the
Worcester, Massachusetts

Hope College
Holland, Michigan

Illinois College
Jacksonville, Illinois

Iowa Wesleyan College
Mount Pleasant, Iowa

Kalamazoo College
Kalamazoo, Michigan

Kenyon College
Gambier, Ohio

Knox College
Galesburg, Illinois

Lawrence University
Appleton, Wisconsin

Luther College
Decorah, Iowa

Marietta College
Marietta, Ohio

Middlebury College
Middlebury, Vermont

Monmouth College
Monmouth, Illinois

Muhlenberg College
Allentown, Pennsylvania

Otterbein College
Westerville, Ohio

Ripon College
Ripon, Wisconsin

Roanoke College
Salem, Virginia

Simpson College
Indianola, Iowa

Swarthmore College
Swarthmore, Pennsylvania

Thiel College
Greenville, Pennsylvania

Trinity College
Hartford, Connecticut

Ursinus College
Collegeville, Pennsylvania

Wabash College
Crawfordsville, Indiana

Western Maryland College
Westminster, Maryland

William Jewell College
Liberty, Missouri

Wooster, The College of
Wooster, Ohio

APPENDIX B

Sample Institutions and Year of Catalogue Observation

	GOALS				PROGRAM			
	69-70	70-71	73-74	74-75	69-70	70-71	73-74	74-75
Allegheny	X			X	X			X
Baldwin-Wallace	X			X	X			X
Bates	X			X	X			X
Beloit		X		X		X		X
Carleton	X		X		X		X	
Centre	X			X	X			X
Colorado		X		X		X		X
Colby		X		X		X		X
Cornell	X			X	X			X
Davidson		X	X			X		X
Dickinson	X			X		X		X
Drury	X			X		X		X
Earlham		X	X			X	X	
Franklin and Marshall		X		X		X		X
Gettysburg	X			X	X			X
Grinnell		X	X			X	X	
Hamilton	X		X		X		X	
Haverford	X		X		X		X	
Heidelberg	X			X	X			X
Hiram		X	X			X	X	
Hobart & Wm. Smith	X		X		X		X	
Holy Cross		X		X		X		X
Hope	X		X		X		X	
Illinois		X		X		X		X
Iowa Wesleyan		X		X		X		X
Kalamazoo		X	X			X	X	
Kenyon	X		X		X		X	
Knox		X		X		X		X
Lawrence	X			X	X			X
Luther		X		X		X		X
Marietta		X		X		X		X
Middlebury	X		–	–	X		–	–
Monmouth		X	X			X	X	
Muhlenberg		X	X			X	X	
Muskingum		X		X		X		X

Appendix B (Con't.)

	GOALS				PROGRAM			
	69-70	70-71	73-74	74-75	69-70	70-71	73-74	74-75
Otterbein		X	X			X	X	
Parsons	X		–	–	X		–	–
Ripon		X	X			X	X	
Roanoke	X		X		X		X	
Simpson		X		X		X		X
Swarthmore	X			X		X		X
Thiel		X	X			X	X	
Trinity		X		X		X		X
Ursinus		X		X		X		X
Wabash (67-68)	X		X		X (67-68)		X	
Western Maryland		X		X		X		X
William Jewell		X	X		X	X		
Wooster	X		X		X		X	
TOTALS	18 + 30		20 + 26		22 + 26		20 + 26	
(No Data)	48		(1) + (1) 48		48		(1) + (1) 48	

APPENDIX C

Program Offerings 1969-71 and 1973-75

	1969-71	1973-75
Preprofessional		
(1) Major, or specific program offered	83	125
(2) Requirements may be met by liberal arts courses	115	110
(3) Requirements may be met (?)	45	32
TOTAL	243	267
Professional/vocational[1] (see App. "F")	442	329
Cooperative Programs	21	44
TOTAL	463	373
Majors Offered–TOTAL	88	125
Combined Majors[2]	11	27
Vocational Majors[4]	40	57
Interdisciplinary Majors[3]	21	51
Areas of Study, Minors–TOTAL	68	87
Vocational Minors[4]	28	35
Interdisciplinary Minors[3]	29	40

[1] Restricted to identified majors listed in the 1957 McGrath study.
[2] Reflects identified majors/minors from two departments of divisions only as listed in catalogues. These do not include broad references to self-designed or independent majors.
[3] Restricted to identified majors/minors including three or more departments or divisions as listed in catalogues. These do not include self-designed or independent majors.
[4] Vocational: training in a skill or trade to be pursued as a career.

APPENDIX D

Total number of colleges offering each of the preprofessional and professional-vocational courses:

	Preprofessional Offerings						Prof-Voc'l	
	1970			1974			1970	1974
	(1)	(2)	(3)	(1)	(2)	(3)		
Predental	9	11	5	13	18	5		
Pre-engineering	26	8	5	29	6	0		
Prelegal	8	24	7	13	24	3		
Prelibrary Science	4	8	1	6	5	3		
Premedical	13	24	9	19	21	5		
Preministerial	9	18	8	11	15	6		
Prenursing	7	3	3	19	3	1		
Preoptometry	0	1	0	2	3	1		
Preosteopathy	0	1	0	2	2	3		
Prephysical therapy	1	3	2	3	4	0		
Presocial work	3	9	3	4	8	3		
Prepharmacy	0	1	0	3	1	1		
Medical technology	(11 coops)			(17 coops)				
Accounting							18	15
Business Administration							45	40
Merchandising							11	7
Chemistry							43	46
Christian service							8	10
Civil service engineering						(1 coop)	1	1
Dietetics							5	2
Engineering							2	1
Forestry						(all coop)	7	12
Govt. & foreign service							45	42
Homemaking							4	3
Journalism							4	6
Military science							17	10
Music							40	40
Occup. & phys. therapy							2	3
Psychology							47	46
Radio							2	2
Recreation							2	4
Christian education							7	5
Elementary education							28	30
Music education							23	23
Physical education							30	32
Secondary education							46	44
Television							2	4
Theatre							26	31
Ministry							1	4
Nursing							1	4

APPENDIX E

1970 Majors

Accounting
Astronomy
Administrative Science
Asian Civilization
Anthropology
Art
African Area Studies
Afro-American Studies
American Literature
American Studies

Biology
Biochemistry
Black Studies
Business Administration

Chinese
Cultural Area Studies
Chemistry
Communications
Classics
Classical Languages
Classical Studies
Computer Science

Drama

Earth Science
Engineering
Engineering and Applied Science
Economics
Education
Elementary Education
East Asian Studies
English
Earth Science
Earth Science Teaching

Fine Arts
French

Greek
German
Geology
German Area Studies
Geography
Government

Human Development
Home Economics
Home Economics Education
History

Italian
International Relations
Indian Studies

Latin

Medical Technology
Music History
Music
Musicology
Math
Math, Applied
Modern Languages
Music Education

Non-Western Studies
Natural Science

Physical Education
Physics
Petroleum Science
Premedical
Philosophy
Portuguese
Psychology
Psychobiology
Public Address
Political Science
Political Economics

Appendix E (Con't.)

Romance Languages
Religion
Religious Studies
Radio/TV
Russian
Russian Area Studies

Spanish
Soviet Area Studies
Sociology
Scandinavian Studies
Social Work
Social Science
Speech

Theology
Theatre Arts

Urban Studies
Urban-Environmental Studies

Combined Majors:
American Civilization
Classics - English
Classics - Philosophy
Geology - Biology
Geology - Chemistry
Philosophy - Religion
Physics - Math
History - Philosophy
Philosophy - Political Science
Chemistry - Physics
Engineering - Applied Science

Interdisciplinary Majors:
Asian Civilization
African Area Studies
Afro-American Studies
American Studies
Black Studies
Cultural Area Studies
Classical Studies
East Asian Studies
German Area Studies
Human Development
International Relations
Indian Studies
Non-Western Studies
Natural Science
Religious Studies
Russian Area Studies
Soviet Area Studies
Scandinavian Studies
Social Science
Urban Studies
Urban Environmental Studies

1970 Areas of Study (Minors)

Asian Studies
American Studies
Aeronautics
Art
Arabic Studies
Arabic
Art & Service
Anthropology
Astronomy

Black Studies

Computer Science
Cultural Heritage
Church Vocations
Communications Studies
Chinese
Career Service

Dutch
Drama

Environmental Studies
Education
Engineering
East Asian Studies

Fine Arts

General Science
General Education
General Studies
Greek Geography

Hebrew
Home Economics
History and Culture of
Southeast Asia
Humanities

Italian
International Studies
International Relations

Japanese

Library Science
Linguistics
Latin
Latin American Studies

Medical Technology
Music
Modern Dance
Modern Languages
Military Science

Portuguese
Physical Education
Public Address
Pretheological
Radiological Technology
Religion
Russian

Secretarial Studies
Slavic Languages and Literature
Self-Designed Study
Social Service
Studies in Problems of the
Urban Disadvantaged
Science Studies
Social Studies
Social Anthropology
Science

Theatre and Drama
Theatre Art
Technical Drawing

Unified Science
Urban Studies

Writing
World Literature

APPENDIX F
1974 Majors

Art
Art History
Art Education
Anthropology
American Studies
American Literature
Accounting
American Ethnology
Asian Studies
Astronomy
Administrative Science

Biology
Black Studies
Business Administration
Biochemistry
Business

Computer Science
Classical Studies
Classical Civilization
Chemistry
Chemistry-Physics
Comparative Literature
Cultural Studies
Classics
Classical Languages
Communications

Dramatic Art
Drama
Dance
Dramatic Literature

Earth Science
Education
Economics
English
European Social &
Economic Change
Environmental Science

Engineering
Elementary Education
East Asian Studies
Earth Science Teaching
Environmental Studies

French
Foreign Languages
Fine Arts

German
Government
Geology
Greek
General Sciences
German Area Studies
General Literature
Hearing Science
Health Education
Health Sciences
Health
History
Home Economics
Human Relations
Human Development Studies
Humanities

Interdisciplinary Majors
International Relations
Integrated Education
Italian
Intercultural Studies

Japanese Studies
Japanese

Linguistics
Liberal Arts and Sciences
Latin American Area Studies
Languages
Latin
Life Science

Appendix F (Con't.)

Math
Music History
Music
Musicology
Modern Languages
Molecular Biology
Management
Modern Languages and Literature
Medical Technology
Mathematical Physics
Myth in History and Drama
Music Education
Managerial Economics
Medieval Studies

Nursing
Nursing Education

Public Relations
Politics
Petroleum Engineering
Premedical
Physical Education
Philosophy
Physics
Physical Sciences
Psychology
Political Science
Political Economics
Peace and Conflict Studies

Religious Studies
Religion
Russian
Romance Languages
Russian Area Studies
Radio/TV/Film
Rhetoric

Soviet Area Studies
Self-developed Major

Social Welfare
Sociology
Social Science
Social Work
South Asian Studies
Spanish
Studio Art
Speech
Slavic Languages and Literature

Theatre Art
Theatre

Urban Studies

Visual Arts

Western Civilization Studies
World Literature

Interdisciplinary Majors:

American Studies
American Ethnology
Asian Studies
Black Studies
Classical Studies
Classical Civilization
Cultural Studies
Communications
European Social and Economic Change
Environmental Science
East Asian Studies
Environmental Studies
Fine Arts
General Sciences
German Area Studies
General Literature
Hearing Science
Human Relations
Human Development Studies

Appendix F (Con't.)

Humanities
International Relations
Integrated Education
Intercultural Studies
Japanese Studies
Liberal Arts and Sciences
Latin American Studies
Life Sciences
Modern Languages and Literature
Mythology
Medieval Studies
Public Relations
Politics
Premedical
Physical Sciences
Political Economics
Peace and Conflict Studies
Religious Studies
Russian Area Studies
Radio/TV/Film
Soviet Area Studies
Self-developed Majors
Social Welfare
Social Sciences
Social Work
South Asian Studies
Slavic Languages and Literature
Theatre Arts
Urban Studies
Visual Arts
Western Civilization Studies

1974 Areas of Study (Minors)

Arts
Arts and Science
Afro-American Studies
Anthropology
Arabic
Asian Studies
Astronomy
Accounting
Aeronautics

Brazilian
Black Studies

Criminal Justice
Corrections
Chinese
Classical Civilization
Computer Science
College Teaching
Classical Languages
Cultural Heritage
Communications Study
Computer Technology
Community Participation
Church Vocations

Drama

European Literature
Education
Environmental Studies
East Asian Studies
Engineering

Far Eastern Studies
Fine Arts

Government
General Education
General Studies
General Literature
Greek
Geography

History & Culture of Southeast Asia
Hebrew
Humanities
Humanities Study
Humanities for Elementary Teachers

Interdisciplinary Study
Interdepartmental Study
International Studies
Italian
Independent Study
Integrated Studies

Japanese
Judaic Studies

Law Enforcement Education
Literature
Latin
Latin American Studies
Library Science
Liberal Arts
Linguistics
Language

Middle East Studies
Modern Greek
Medieval Studies
Medical Technology
Military Science
Modern Dance

Natural Sciences Studies

Off-Campus Studies

Portuguese
Physical Education
Public Speaking
Public Address
Pretheological
Prelaw

Radiological Technology
Russian
Renaissance Studies

Speech
Social Science Studies
Special Studies (Medical, Allied Health)
Social Studies
Self-designed Studies
South Asian Studies
Sanskrit
Serbo-Croation
Science

Unified Sciences

Work Term
Western Civilization Studies

Interdisciplinary Study:
Arts and Science
Afro-American Studies
Asian Studies
Black Studies
Classical Civilization
Cultural Heritage
Communications Study
Community Participation
Church Vocations
Environmental Studies
East Asian Studies
Far Eastern Studies
Fine Arts
General Education
General Studies
General Literature
History and Culture of the Southeast Asia
Humanities
Humanities Study
International Study
Independent Study
Integrated Studies
Judaic Studies
Latin American Studies
Liberal Arts
Middle East Studies
Medieval Studies
Natural Science Studies
Off-Campus Studies
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Science
Unified Sciences
Work Term
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